



PATENT  
Customer No.: 22,852  
Attorney Docket No. 05725.0844-00

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                                       |   |                       |
|---------------------------------------|---|-----------------------|
| In re Application of:                 | ) |                       |
| David W. CANNELL <i>et al.</i>        | ) | Group Art Unit: 1618  |
|                                       | ) |                       |
| Application No.: 09/820,858           | ) |                       |
|                                       | ) | Examiner: B. Fubara   |
| Filed: March 30, 2001                 | ) |                       |
|                                       | ) |                       |
| For: HEAT ACTIVATED DURABLE           | ) | Confirmation No. 3869 |
| CONDITIONING COMPOSITIONS             | ) |                       |
| COMPRISING AN AMINATED C <sub>3</sub> | ) |                       |
| TO C <sub>5</sub> SACCHARIDE UNIT AND | ) |                       |
| METHODS FOR USING THE                 | ) |                       |
| SAME                                  | ) |                       |

**Mail Stop Appeal Brief-Patents**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

Sir:

**REPLY BRIEF UNDER BOARD RULE § 41.41**

Pursuant to Board Rule 37 C.F.R. § 41.41, Appellants present a Reply Brief to the Examiner's Answer dated August 22, 2007. This Reply Brief is due by October 22, 2007, and is timely. A Request for Oral Hearing is filed concurrently with this Brief.

**REMARKS**

Appellants gratefully acknowledge the Office's indication that the rejection of claims 16, 18, 19, and 48 under 35 U.S.C. § 112, second paragraph has been withdrawn and that the obviousness-type double patenting rejection of claims 1-9, 13-20, 37-40, 43, 44, 47, and 48 has been obviated by the Terminal Disclaimer filed April 27, 2007. (Ex. Answer at 4.)

The Examiner's Answer indicates that the statement of the claimed subject matter in Appellants' Appeal Brief filed April 27, 2007 is deficient. (Ex. Answer at 3.) However, the Examiner does not explain the basis for this deficiency. Appellants respectfully note that the Brief pointed out that "[s]upport for claim 1 is found at least on page 9, lines 1-8, and on page 17, lines 4-6." (Appellant. Br. at 8.)

The Office maintains its position that claims 1-8, 13-16, 20, 24-26, 29, 35, and 45-47 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,494,533 to Woodin et al. ("*Woodin*"). Appellants respectfully continue to disagree for the reasons of record. In particular, the teachings relied upon by the Office either fail to teach a composition comprising both components of the claimed composition or they involve a polysaccharide in which the "amino group" (as required by part (b) of claim 1) is substituted. Accordingly, Appellants submit for the reasons of record that the rejection of the claims as anticipated by *Woodin* is in error and should be reversed.

The Office also maintains its rejections of claims 1-9, 13, 16, 17, 20, 24-26, 29, 35, 39, 40 and 45-48 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4,913,743 to Brode et al. ("*Brode*") and of claims 14, 15, 37, 38, and 41-44 under 35 U.S.C. § 103(a) as allegedly unpatentable over *Brode* in view of U.S. Patent No.

4,743,442 to Raaf et al. ("*Raaf*"). (Ex. Answer at 6, 8.) Appellants respectfully submit that both rejections are improper because *Brode* does not teach or suggest a compound within the scope of claim 1.

In rejecting claim 1, the Office relies on *Brode*'s teaching of glycosaminoglycans and asserts that since "amides are not substituted amines" *Brode* teaches the component of claim 1(b). (Ex. Answer at 12.) The Office points to the structure of amines and amides, notes that they have different functional properties, and concludes that glycosaminoglycans, which are polysaccharides, cannot be considered to have a substituted amino group. (Ex. Answer at 12-13.) It is the Office's position that certain modifications, in particular the addition of a carbonyl to the nitrogen of the amino sugar, remove the resulting polysaccharide from the scope of those having "a substituted amino group." In support of that position, the Office points to the structures of the glycosaminoglycans chondroitin sulfate and hyaluronan as evidence that the glycosaminoglycans have "amide functional groups, not amines." (Ex. Answer at 13-14.)

Respectfully, the Office's finding that glycosaminoglycan are polysaccharides that do not have substituted amino groups ignores the basic structure of glycosaminoglycans. As previously noted, glycosaminoglycans are a genus of compounds. The very name of that genus — glycosaminoglycans— indicates that the ordinary artisan considers the genus to comprise "amino" groups. Modifications to the amino sugar of the disaccharide unit result in chondroitin sulfate, hyaluronan, and other species of glycosaminoglycans. But despite the Office's assertion, modifications of the

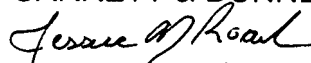
amino group that result in compounds with different functional activities does not change the fact that the core structure was a glycosaminoglycan.

Appellants respectfully submit that, other than the Office's desire to use *Brode* as a reference against the claims, it lacks any basis for limiting "a substituted amino group" to substitutions with alkyl groups. For these reasons and those of record, Appellants again respectfully request reversal of the rejections based upon the teachings of *Brode*.

If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: October 19, 2007

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